

Table 1

produced by ears of plants

Phenotypes of kernels on ears of plants* in culture 7109 that were a_2^{m-1} (class II) Bt/a₂ bt in constitution, which were produced from cross with plants homozygous for a₂, bt, and bx and having no Spm.

Plant Number	Part of plant tested	Phenotype of Kernel					
		Deeply pigmented		Spots of pigment in non-pigmented background		Colorless	
		<u>Bt</u>	<u>bt</u>	<u>Bt</u>	<u>bt</u>	<u>Bt</u>	<u>bt</u>
7109B-1	main stalk	101	9	19	0	6	133
	" tiller-1	99	3	85	2	8	217
	" tiller-2	90	8	95	2	4	145
	" tiller-3	121	5	128	3	7	234
7109B-2	main stalk	123	13	114	4	19	221
	" tiller-2	124	8	133	8	22	251
	pollen	77	7	91	3	12	185
	" tiller-1	142	7	81	6	10	216
7109C-1	main stalk	91	5	69	2	11	156
	" tiller-2	124	4	125	7	17	233
	" tiller-3	73	5	78	2	11	168
	" tiller-1	168	13	81	5	23	271
7109C-2	main stalk	134	7	120	9	15	222
	pollen	176	7	153	12	23	337
	" tiller-1	214	15	7	1	12	228
	" tiller-2	127	4	111	4	7	243
7109C-3	main stalk	114	2	105	3	5	226
	pollen	77	4	38	0	5	137
	" tiller-1	127	7	96	3	12	222
	" tiller-2	127	7	96	3	12	222

* stalk = "R"

Year 1958 Test.

Table

Cross Type	No. ♀ ♂	Colorless BT with:						Colorless bt		Colorless		Totals			
		Wt forming dark areas	Many spots of color	Few spots or specky color	Wt spots or specky color	BT	bt	BT	bt	BT	bt				
I	8	664	56	621	7			42	96	1258	2744				
II	1	1	1	41	0			3	6	32	84				
III	11	1130	78	577	563			74	154	2351	4927				
IV	3	40	4	172	193			27	38	376	850				
		Wt	Wt	Wt	Wt	Wt	Wt	Wt	Wt	Wt	Wt	Wt and wt			
V	8	324	330	29	29	245	37	40	233	21	25	57	53	1240	2663
VI		228	41	32	3	197	42	58	411	23	56	70	66	914	2141
VII	2	7	65	1	1	3	65	129	16	4	3	16	7	256	573
VIII	4	285	46	25	4	29	152	13	139	12	21	18	26	736	1506
IX	1	9	4	0	2	42	5	16	56	5	5	5	2	150	301

Cross types: $G_2^{Wt} (F_2) BT / G_2^{Wt} BT$ ♀

- I no SPM
- II no SPM
- III 1: inactive SPM, not linked to wt
- IV 1: inactive SPM, not " to Wt
- V Wt+|Wt SPM - inactive
- VI Wt+|Wt SPM - active
- VII Wt SPM - active | Wt +
- VIII Wt+|Wt SPM plus 1 inactive SPM

or $d_2^W BT / d_2^W BT ; Wt / Wt$

1 active SPM

SPM-active | SPM-inactive (2 active SPM at allele position)

1 active SPM

SPM-active | SPM-inactive (")

1 active SPM

1 active SPM

no SPM

1958

$a_{2^{m-1}}$ entries. For Tables 2-4 References
Ref to earlier in
Table.

Table 2-4

Reference	3 B	Page 1
7536	2 D	Page 1
7544	3 B	Page 2
7545	2 D	
7546	3 B	Page 2
7547	2 D	
7548	3 B	Page 2
7549	2 D	
7550	3 B	Page 2
7551	2 D	
7552	3 B	Page 2
7553	2 D	
7554	3 B	Page 2
7555	2 D	
7556	3 C	Page 2
7557	2 B	Page 1
7558	2 C	Page 1
7559	2 C	Page 1
7560	3 B	Page 1
7561	3 C	Page 1
7562	3 C	Page 1
7563	3 B	Page 1
7564	3 C	Page 1
7565	"	"
7566	"	"
7567	"	"
7568	"	"
7569	3 D	Page 1
7570	3 B	Page 1
7571	3 D	Page 1
7572	2 C	Page 1
7573	3 B	Page 2
7574	3 D	Page 1
7575	3 B	Page 2
7576	3 C	
7577	2 D	
7578	3 D	Page 2
7581	3 C	
7582	2 D	
7583	3 D	Page 2
7584	3 C	Page 2
7585	2 D	
7586	3 C	
7587	2 D	
7588	3 C	Page 1
7589	2 D	
7590	3 D	Page 3.
7591	4	Page 1
7592	4	Page 1
7593	4	Page 1

1960 References

Culture	Derived from Culture	Reference
7777	(7561)	2C, page 2
7778	(7564A)	3C, " 3
7779	(7569)	3D, " 4
7780	(7599)	2A, " 1
7781	(7661)	3C, " 3
7782	(7545)	
7783	(7545 + 7538-3)	3D " 5
7784	(7662)	3D " 5
7785	(7662)	3D " 5
7786	(7613 + 7538-14)	3D " 5
7816	(7570C)	3D " 4
7817	(7570C)	3D " 4
7818	(7570C + 7538-14)	3D " 4

1957

7306	Ta662 B	7109B-1	Tiller-1
7307	" 2 C	" "	tiller-2
7308	" 3 B	7109B-2	-1 (?)
7309	Ta663 A	7109B-2	I
7312-13	Ta662 D	7109B-1	pollen
7455	Ta664	7109C-4	
7456	Ta662 B	7109B-1	I

Table 2 A

Spm activity in cells producing ears and pollen of plants derived from kernels on ear of main stalk of plant 7109B-1

Plant Number	<u>Spm</u> location	Activity of <u>Spm</u>		Ear of	Ear of	Ear of	Pollen
		First ear, main stalk	Second ear, main stalk	Tiller 1	Tiller 2	Tiller 3	
<u>Year 1957</u>							
7456B-5	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	-		d	d		
" C-1	<u>Wx</u> / <u>Wx</u> ; 1 <u>Spm</u>	-		d			
" C-2	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	-	vd				
" C-3	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	-	vd	d	d	d	
" C-4	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	-	-	-			d
" D-1	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	-	-	d	d		
" D-2	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	vd	-				
" D-3	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	-					
" D-4	<u>Wx</u> / <u>Wx</u> ; 1 <u>Spm</u>	vd	-	vd	d		
" D-5	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	-	-	vd	d	d	d
" D-7	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	-		vd	vd		d
" E-2	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	-					vd
<u>Year 1958</u>							
7600-1	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	-					
" -2	<u>Wx</u> / <u>Wx</u> ; 1 <u>Spm</u>	vd					
" -3	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	-					
" -4	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	(+ -)					
" -5	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	-					
" -6	<u>Wx</u> / <u>Wx</u> ; 1 <u>Spm</u>	-					
" -7	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	-					
" -8	<u>Wx</u> / <u>Wx</u> ; <u>Spm</u>	-					
" -9	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	-					
" -11	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	-					
" -12	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	-	vd				
7598-7	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	vd					
" -8	<u>Wx</u> / <u>Wx</u> ; 1 <u>Spm</u>	-					
7599A-1	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	-					
" A-2	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	-		d			
" A-3	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	d					
" A-4	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	-					
" A-5	<u>Wx</u> / <u>Wx</u> ; 1 <u>Spm</u>	-					
" A-6	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	-					
" B-1	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	vd			d		
" B-2	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	vd					
" B-3	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	d					
" B-4	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	-	vd				
<u>Year 1960</u>							
7780A-1	<u>Wx</u> <u>Spm</u> / <u>wx</u> <u>Spm</u>	-	+				
" A-2	<u>Wx</u> <u>Spm</u> / <u>wx</u> <u>Spm</u>	-	+				
" A-3	<u>Wx</u> <u>Spm</u> / <u>wx</u> <u>Spm</u>	-	d				
" A-4	<u>Wx</u> <u>Spm</u> / <u>wx</u> <u>Spm</u>	-	+		+	+	+
" A-5	<u>Wx</u> <u>Spm</u> / <u>wx</u> <u>Spm</u>	-	d				
" A-6	<u>Wx</u> <u>Spm</u> / <u>wx</u> <u>Spm</u>	-	+		d	+	
" A-7	<u>Wx</u> <u>Spm</u> / <u>wx</u> <u>Spm</u>	-	(+ -)		+		
A-8-8	<u>Wx</u> <u>Spm</u> <u>wx</u> <u>Spm</u>			-	+	-	
" A-9	<u>Wx</u> <u>Spm</u> / <u>wx</u> <u>Spm</u>	-		+	-	+	
" A-10	<u>Wx</u> <u>Spm</u> / <u>wx</u> <u>Spm</u>	-	d	-	+		
" B-1	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	d			+	+	
" B-2	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+			+		
" B-3	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>						
* B-4	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	vd		+			
" B-5	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+					
" B-6	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	d		d	+	+	
" B-7	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+		+			
" B-8	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>						

Origin of plants in A of table 2

Culture 7456: From kernels on first ear of main stalk of plant 7109B-1

Cross: 7109B-1 $\underline{a}_2^{\text{m-l}}$ (class II) $\underline{\text{Bt}}/\underline{a}_2 \underline{\text{bt}}$; $\underline{\text{wx}} +/\underline{\text{wx}} \underline{\text{Spm}}$ ♀ x $\underline{a}_2 \underline{\text{bt}}/\underline{a}_2 \underline{\text{bt}}$
 $\underline{\text{wx}}/\underline{\text{wx}}$, no Spm ♂.

Plants in B: From uniformly dark pigmented, Bt, wx kernels.

C: From diffuse-mottled, Bt, wx kernels.

D: From colorless, Bt, wx kernels with small spots of deep pigment.

E: From uniformly pigmented, bt, wx kernels.

Culture 7600: From uniformly deep pigmented kernels on ear of tiller-1 of plant 7456C-3.

Cross: $\underline{a}_2^{\text{m-l}}$ (class II) $\underline{\text{Bt}}/\underline{a}_2 \underline{\text{bt}}$, $\underline{\text{wx}} +/\underline{\text{wx}} \underline{\text{Spm}}$ ♀ x $\underline{a}_2 \underline{\text{bt}}/\underline{a}_2 \underline{\text{bt}}$, $\underline{\text{wx}}/\underline{\text{wx}}$, no Spm ♂.

Culture 7598: From uniformly dark pigmented, Bt, wx kernels on first ear of main stalk of plant 7456D-5.

Cross: $\underline{a}_2^{\text{m-l}}$ (class II) $\underline{\text{Bt}}/\underline{a}_2 \underline{\text{bt}}$, $\underline{\text{wx}} +/\underline{\text{wx}} \underline{\text{Spm}}$ ♀ x $\underline{a}_2 \underline{\text{bt}}/\underline{a}_2 \underline{\text{bt}}$, $\underline{\text{wx}}/\underline{\text{wx}}$, no Spm ♂.

Culture 7599: from kernels on ear produced by cross of $\underline{a}_2 \underline{\text{bt}}/\underline{a}_2 \underline{\text{bt}}$, $\underline{\text{wx}}/\underline{\text{wx}}$, no Spm ♀ x 7456D-5 ♂ (see culture 7598).

Plants in A: From diffuse-mottled, Bt, wx kernels.

B: From colorless, Bt, wx kernels with spots or specks of pigment.

Culture 7780: From kernels on first ear of main stalk of plant 7599B-4.

Cross: $\underline{a}_2^{\text{m-l}}$ (class II) $\underline{\text{Bt}}/\underline{a}_2 \underline{\text{bt}}$, $\underline{\text{wx}} +/\underline{\text{wx}} \underline{\text{Spm}}$ ♀ x $\underline{a}_2 \underline{\text{bt}}/\underline{a}_2 \underline{\text{bt}}$, $\underline{\text{wx}} +/\underline{\text{wx}} \underline{\text{Spm}}$ ♂.

Plants in A: From colorless, Bt, wx kernels with only a few specks of pigment.

B: From colorless, Bt, wx kernels with both large and small pigmented areas.

Table 2 B

Spm

Spm activity in cells producing ears and pollen of plants derived from kernels on the ear of tiller-1 of plant 7109B-1

Plant number	<u>Spm</u> location	Activity of <u>Spm</u>						Pollen
		First ear, main stalk	Second ear, main stalk	Ear of tiller 1	Ear of tiller 2	Ear of tiller 3		
<u>Year 1957</u>								
7306A-1	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+		+	+			
" A-2	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	-						
T " A-3	<u>Wx</u> / <u>wx</u> ; 1 <u>Spm</u>	-				+		
" A-4	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+						
" A-5	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+						
" A-6	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+		+				
T " B-1	<u>Wx</u> +/ <u>wx</u> <u>Spm</u> plus 1 <u>Spm</u>	+	+	+	+	+	+	
T " B-2	"	+	+		+	+	+	
<u>Year 1958</u>								
7560-1	<u>Wx</u> <u>Spm/wx</u> +	+				+	+	
# -2	(<u>Wx</u> <u>Spm/wx</u> +)	-						
T " -3	<u>Wx</u> / <u>wx</u> ; 1 <u>Spm</u>	vd		vd		+		
T " -4	<u>Wx</u> / <u>wx</u> ; 2 <u>Spm</u>	+	+	+	+			
" -5	<u>Wx</u> <u>Spm/wx</u> +	+					+ wnd d	
T " -6	<u>Wx</u> / <u>wx</u> ; 1 <u>Spm</u>	+						

Origin of plants in B of table 2

Culture 7306: From kernels on ear of tiller-1 of plant 7109B-1.

Cross: a_2^{m-1} (class II) Bt/a₂ bt, wx+/wx Spm ♀ x a₂ bt/a₂ bt, wx/wx, no Spm ♂.

Plants in A: From colorless, Bt, wx kernels with a number of spots of pigment.

B: From colorless, Bt, wx kernels with only a few specks of pigment.

Culture 7560: From kernels on second ear of main stalk of plant 7306A-1.

Cross: a_2^{m-1} (class II) Bt/a₂ bt, wx+/wx Spm ♀ x a₂ bt/a₂ bt, wx/wx, no Spm ♂.

Plants derived from colorless, Bt, wx kernels with a number of small pigmented spots.

Table 2 C

Activity of Spm in cells producing ears and pollen. Spm derived from kernels on ear of tiller-2 of plant 7109B-1

Plant number	Spm location	Activity of Spm					pollen
		First ear main stalk	Second ear main stalk	Ear of tiller 1	Ear of tiller 2	Ear of tiller 3	
Year 1957							
7307A-1	<u>Wx/Wx</u> ; 1 Spm	d					
" A-2	<u>Wx</u> +/ <u>wx</u> Spm	+		+	+		
" A-3	<u>Wx</u> +/ <u>wx</u> Spm	+	+	+			
" A-4	<u>Wx</u> +/ <u>wx</u> Spm	+		+			
" A-5	<u>Wx</u> +/ <u>wx</u> Spm	+	+	+			
" A-6	<u>Wx</u> +/ <u>wx</u> Spm	+					
" B-1	<u>Wx</u> +/ <u>wx</u> Spm	+		+	+		
" B-2	<u>Wx</u> +/ <u>wx</u> Spm	+	+	+	+		
T " B-3	<u>Wx</u> +/ <u>wx</u> Spm plus 1 Spm	+	+	+	+	+	+
T " B-4	<u>Wx</u> +/ <u>wx</u> Spm plus 1 Spm	+	+		+	+	
Year 1958							
7561-1	<u>Wx</u> Spm / <u>wx</u> ; Spm	-					
" -2	<u>Wx</u> Spm/ <u>wx</u> +	vd		vd			
" -3	<u>Wx</u> Spm/ <u>wx</u> +	+		+			
" -4	<u>Wx</u> Spm/ <u>wx</u> +	(+ -)		-		+	
" -5	<u>Wx</u> Spm/ <u>wx</u> +	+					
7562-1	<u>Wx</u> Spm/ <u>wx</u> +	+		+			
" -2	<u>Wx</u> Spm/ <u>wx</u> +	+					
" -3	<u>Wx</u> Spm/ <u>wx</u> +	-				+	
7572-1	<u>Wx</u> +/ <u>wx</u> Spm	+					
" -2	<u>Wx</u> +/ <u>wx</u> Spm	+				+	
" -3	<u>Wx</u> +/ <u>wx</u> Spm	+		+			
" -4	<u>Wx</u> / <u>Wx</u> ; Spm	vd					
" -5	<u>Wx</u> +/ <u>wx</u> Spm	vd		d			
" -6	<u>Wx</u> +/ <u>wx</u> Spm	+					
" -7	<u>Wx</u> +/ <u>wx</u> Spm	+					
Year 1960							
7777A-1	<u>Wx</u> Spm/ <u>wx</u> +	(d)	(d)		(d)	+	
" A-2	<u>Wx</u> Spm/ <u>wx</u> +	+			+		
" A-3	<u>Wx</u> Spm/ <u>wx</u> +	(d)					
" A-4	<u>Wx</u> Spm/ <u>wx</u> +	+			+		
" B-1	<u>Wx</u> Spm/ <u>wx</u> +	d			+		
" B-2	<u>Wx</u> Spm/ <u>wx</u> +	d			+		+
" B-3	<u>Wx</u> Spm/ <u>wx</u> +	d					
" B-4	<u>Wx</u> Spm/ <u>wx</u> +	d		d		+	
" C-1	<u>Wx</u> Spm/ <u>wx</u> +	-					
" C-2	<u>Wx</u> Spm/ <u>wx</u> +	vd			(+ -)		
" C-3	<u>Wx</u> Spm/ <u>wx</u> +	vd			vd		
" C-4	<u>Wx</u> Spm/ <u>wx</u> +	-					
" D-1	<u>Wx</u> Spm/ <u>wx</u> +	-				-	
" D-2	<u>Wx</u> Spm/ <u>wx</u> +	-				-	
" D-3	<u>Wx</u> Spm/ <u>wx</u> +	-				-	
" D-4	<u>Wx</u> Spm/ <u>wx</u> +	-				-	

Origin of plants in C of table 2.

Culture 7307: From kernels on ear of tiller-2 of plant 7109B-1.

Cross: a_2^{m-1} (class II) Bt/a₂ bt, wx +/wx Spm ♀ x a₂ bt/a₂ bt, wx/wx, no Spm ♂.

Plants in A: From colorless, Bt, wx kernels with a number of small pigmented spots.

B: From colorless, Bt, wx kernels with only a few small specks of pigment.

Culture 7561: From kernels on first ear of main stalk of plant 7307A-3.

Cross: a_2^{m-1} ^(class II) Bt/a₂ bt, wx +/wx Spm ♀ x a₂ bt/a₂ bt, wx/wx, no Spm ♂.

Plants derived from colorless, Bt, wx kernels with a number of small spots of pigment.

Culture 7562: From kernels on first ear of main stalk of plant 7307A-5.

Cross: a_2^{m-1} (class II) Bt/a₂ bt, wx +/wx Spm ♀ x a₂ bt/a₂ bt, wx/wx, no Spm ♂.

Plants derived from colorless, Bt, wx kernels with a number of small pigmented spots.

Culture 7572: From kernels on second ear, main stalk, of plant 7307B-2.

Cross: a_2^{m-1} (class II) Bt/a₂ bt, wx +/wx Spm ♀ x a₂ bt/a₂ bt, wx/wx, no Spm ♂.

Plants derived from colorless, Bt, wx kernels with only few specks of pigment.

Culture 7777: See text, page for description of origin of plants in this culture.

Table 2 D

Activity of Spm in cells producing ears and pollen. Spm derived from pollen of plant 7109B-1

Plant number	<u>Spm</u> location	Activity of <u>Spm</u>				
		First ear main stalk	Second ear main stalk	Ear of tiller	Ear of tiller	pollen
		1	2	3		
<u>Year 1957</u>						
7312-1	Not tested	-				
" -2	" "	-				
" -4	" "	+				
" -5	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+				
" -6	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	vd			vd	vd
7313A-1	Not tested	vd				
" A-2	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	vd			+	
" B-1	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	d				
" B-2	Not tested	vd				
" B-3	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	vd				
T " B-4	<u>Wx/wx</u> ; 2 <u>Spm</u> , main	+	+		+	+
	<u>Wx</u> +/ <u>wx</u> <u>Spm</u> ,					
	tillers - 2					
" B-5	<u>Wx/wx</u> ; 1 <u>Spm</u>	+		+		
<u>Year 1958</u>						
7547A-1	<u>Wx</u> <u>Spm/wx</u> +	-	-		+	d
" A-2	<u>Wx</u> <u>Spm/wx</u> +	+			+	
" A-3	<u>Wx</u> <u>Spm/wx</u> +	+				
" A-4	<u>Wx</u> <u>Spm/wx</u> +	-				
" A-5	<u>Wx</u> <u>Spm/wx</u> +	-		vd		
" B	<u>Wx</u> <u>Spm/wx</u> +	-			d	
" C-1	<u>Wx</u> <u>Spm/wx</u> +	d				
" C-2	<u>Wx</u> <u>Spm/wx</u> +	+				
7582A	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	-			-	
" B-1	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	-				
" B-2	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	-		-		
" B-3	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	-				

Origin of plants in D of table 2.

Culture 7312: From kernels on ear produced by

Cross: $\underline{a}_2^{\text{m-l}}$ (class I) Bt/a₂ bt, wx/wx, no Spm ♀ x plant 7109B-1 ♂.

Plants derived from Bt, wx, kernels having Spm and both the class I and class II states of $\underline{a}_2^{\text{m-l}}$.

Culture 7313: From kernels on ear produced by

Cross: A₂ Bt/a₂ bt, wx/wx, no Spm ♀ x 7109B-1 ♂.

Plants in A and B derived from colorless, Bt, wx kernels with some pigmented spots and specks.

Culture 7547: From kernels on first ear of main stalk of plant 7312-5.

Cross: $\underline{a}_2^{\text{m-l}}$ (class I) Bt/a₂ $\underline{\text{m-l}}$ (class II) Bt, wx +/wx Spm ♀ x a₂ bt/a₂ bt, wx/wx, no Spm ♂.

Plants in A: From variegated, Bt, wx kernels having the class I state of $\underline{a}_2^{\text{m-l}}$.

B and C: From colorless, Bt, wx kernels with small spots pigment (class II state).

Culture 7582: From kernels on first ear, main stalk of plant 7312-6.

Cross: $\underline{a}_2^{\text{m-l}}$ (class I) Bt/a₂ $\underline{\text{m-l}}$ (class II) Bt, wx +/wx Spm ♀ x a₂ bt/a₂ bt, wx/wx, no Spm ♂.

Plants in A: From colorless, Bt, wx kernels with small pigmented spots (class II state).

B: From uniformly pale pigmented (class I state), Bt, wx kernels.

Table 3 A

activity of Spm in cells producing ears. Spm derived from kernels on ear of main stalk of plant 7109B-2

Plant number	<u>Spm</u> location	activity of <u>Spm</u>		
		First ear, main stalk	Second ear, main stalk	Ear of tiller
		1	2	3

Year 1957

7309A-1 (<u>wx</u> +/ <u>wx</u> <u>Spm</u>)	-	-		
" A-2 (<u>wx</u> +/ <u>wx</u> <u>Spm</u>)	-			
" A-3 <u>wx</u> +/ <u>wx</u> <u>Spm</u>	+		+	
" A-4 <u>wx</u> +/ <u>wx</u> <u>Spm</u>		-	+	vd
" A-5 <u>wx</u> +/ <u>wx</u> <u>Spm</u>	d		+	+
" A-6 <u>wx</u> +/ <u>wx</u> <u>Spm</u>	vd	vd		
" A-7 (<u>wx</u> +/ <u>wx</u> <u>Spm</u>)	-			
" A-8 <u>wx</u> +/ <u>wx</u> <u>Spm</u>	+			
" A-9 <u>wx</u> +/ <u>wx</u> <u>Spm</u>	d			

Culture 7309: From kernels on first ear of main stalk of plant 7109B-2
(Cross I)

Cross: 7109B-2 \times a_2^{m-1} $\frac{Bt}{a_2} bt$, wx +/wx Spm, $\frac{+}{+} \times a_2 bt/a_2 bt$, wx/wx, no Spm ♂.

Plants in A: From colorless, Bt, wx kernels with small spots of deep pigment.

Table 3 B

Activity of Spm in cells producing ears and pollen. Spm derived from self-pollinated ear of tiller-1 of plant 7109B-2

Plant Number	<u>Spm</u> location	Activity of <u>Spm</u>						pollen
		First ear main stalk	Second ear main stalk	Ear of tiller 1	Ear of tiller 2	Ear of tiller 3		
<u>Year 1957</u>								
7308A-4	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+ 7570	+ 7543	+ 7546				
" A-5	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>							+
" B-1	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	d			+	+		
" B-2	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+						
T " B-3	Not tested (<u>2spm</u>)	+	+					
" B-4	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+		+	+	+		
T " C-1	<u>Wx</u> <u>Spm</u> / <u>wx</u> <u>Spm</u>	+	+	+	+	+	+	
" C-2	<u>wx</u> <u>Spm</u> / <u>wx</u> <u>Spm</u> plus 2 <u>spm</u> (?)	+ +						
" C-3	<u>wx</u> <u>Spm</u> / <u>wx</u> <u>Spm</u>	+	+	+	+			
T " C-4	<u>wx</u> <u>Spm</u> / <u>wx</u> +, plus 1 <u>Spm</u>	+	+					
" C-5	<u>wx</u> <u>Spm</u> / <u>wx</u> <u>Spm</u>	+	+					
T " C-6	<u>wx</u> <u>Spm</u> / <u>wx</u> <u>Spm</u> plus 1 <u>Spm</u>	+ + + 7573	+ + +	+ + +				
" D-1	<u>wx</u> +/ <u>wx</u> <u>Spm</u>							+
" D-2	<u>wx</u> +/ <u>wx</u> <u>Spm</u>							+
<u>Year 1958</u>								
7570A-1	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	d	d		+	+		+
" A-2	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+	+		+	+		
" A-3	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+	+					
" A-4	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	d			+	+		
" A-5	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+			+	+		
" A-6	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+		+		+		
T " A-7	<u>Wx</u> / <u>wx</u> ; 1 <u>Spm</u>	+	+					
T " A-8	<u>Wx</u> +/ <u>wx</u> <u>Spm</u> plus 1 <u>Spm</u>	+ +	+ +					
" B-1	<u>Wx</u> <u>Spm</u> / <u>wx</u> +	+	+					
" B-2	<u>Wx</u> <u>Spm</u> / <u>wx</u> +	+ +	+ +					
" B-3	<u>Wx</u> <u>Spm</u> / <u>wx</u> +	-			+	+		
" C	<u>Wx</u> <u>Spm</u> / <u>wx</u> <u>Spm</u>	+ +	+ +					+
7563A-1								
T " A-2	<u>Wx</u> / <u>wx</u> ; 1 <u>Spm</u>	+						
" A-3	<u>Wx</u> <u>Spm</u> / <u>wx</u> +	+	+		+	+		
" A-4	<u>Wx</u> <u>Spm</u> / <u>wx</u> +	+		+	+	+		
" A-5	<u>Wx</u> <u>Spm</u> / <u>wx</u> +	+		+				
" B-1	<u>Wx</u> <u>Spm</u> / <u>wx</u> +	+			+	+		
" B-2	<u>Wx</u> <u>Spm</u> / <u>wx</u> +	+		+	+	+		
7546-1								
" -2	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+						
" -3	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+						
" -4	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+						
" -5	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+						
" -6	<u>Wx</u> / <u>wx</u> ; 1 <u>Spm</u>	+						
" -7	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+						
T " -8	<u>Wx</u> X/ <u>wx</u> <u>Spm</u> plus 2 <u>Spm</u>	+ +	+ +					
" -9	<u>Wx</u> + * / <u>wx</u> <u>Spm</u>	+ +	+ +					
" -10	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+						
" -11	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+						
" -12	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+						
7554A-1								
" A-3	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	(+ -)		nd	nd			

T	" B-3	Not counted (^{2 spm})	+	+				
"	B-4	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+					
T	C-1	<u>Wx</u> <u>Spm</u> / <u>wx</u> <u>Spm</u>	+	+	+	+	*	+
"	C-2	<u>wx</u> <u>Spm</u> / <u>wx</u> <u>Spm</u>	+	+	+	+	*	+
"	C-3	<u>wx</u> <u>Spm</u> / <u>wx</u> <u>Spm</u>	+	+	+	+		
T	C-4	<u>wx</u> <u>Spm</u> / <u>wx</u> +, plus 1 <u>Spm</u>	+	+				
"	C-5	<u>wx</u> <u>Spm</u> / <u>wx</u> <u>Spm</u>	+	+				
T	C-6	<u>Wx</u> <u>Spm</u> / <u>wx</u> <u>Spm</u>	+	+	+	+	+	
"	D-1	<u>wx</u> +/ <u>wx</u> <u>Spm</u>						+
"	D-2	<u>wx</u> +/ <u>wx</u> <u>Spm</u>						+

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7570A-1	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	d	d	+	+	+	
" A-2	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+	+	+	+	+	
" A-3	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+	+	+	+	+	
" A-4	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	d		+	+	+	
" A-5	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+		+	+	+	
" A-6	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+		+	+	+	
T " A-7	<u>Wx</u> / <u>wx</u> ; 1 <u>Spm</u>	+	+				
T " A-8	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>						
	plus 1 <u>Spm</u>	+	+	+	+	+	
" B-1	<u>Wx</u> <u>Spm</u> / <u>wx</u> +	+	+	+	+	+	
" B-2	<u>Wx</u> <u>Spm</u> / <u>wx</u> +	+	+	+	+	+	
" B-3	<u>Wx</u> <u>Spm</u> / <u>wx</u> +	-		+	+	+	
" C	<u>Wx</u> <u>Spm</u> / <u>wx</u> <u>Spm</u>	+	+	+	+	+	+

7563A-1	<u>Wx</u> <u>Spm</u> / <u>wx</u> +	+		+	+		
T " A-2	<u>Wx</u> / <u>wx</u> ; 1 <u>Spm</u>	+		+	+		
" A-3	<u>Wx</u> <u>Spm</u> / <u>wx</u> +	+		+	+		
" A-4	<u>Wx</u> <u>Spm</u> / <u>wx</u> +	+		+	+		
" A-5	<u>Wx</u> <u>Spm</u> / <u>wx</u> +	+		+	+		
" B-1	<u>Wx</u> <u>Spm</u> / <u>wx</u> +	+		+	+		
" B-2	<u>Wx</u> <u>Spm</u> / <u>wx</u> +	+		+	+		
" B-3	<u>Wx</u> <u>Spm</u> / <u>wx</u> +	-		+	+		
T " C	<u>Wx</u> <u>Spm</u> / <u>wx</u> <u>Spm</u>	+	+	+	+	+	+
7546-1	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+		+			
" -2	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	vd		+			
" -3	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+		+			
" -4	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+		+			
" -5	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+		+			
" -6	<u>Wx</u> / <u>wx</u> ; 1 <u>Spm</u>	+		+			
" -7	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+		+			
T " -8	<u>Wx</u> X/ <u>wx</u> <u>Spm</u>						
	plus 2 <u>Spm</u>	+	+	+	+		
" -9	<u>Wx</u> +/ <u>wx</u> <u>Spm</u> <u>Spm</u> +	+		+			
" -10	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+					
" -11	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+					
" -12	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+					
7554A-1	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	(vd)		vd		vd	
" A-3	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	-				-	
" A-4	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	-		vd		vd	
" A-5	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	-				vd	vd
7573A-1	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	plus 1 <u>Spm</u>					
" A-2	"		d	d			
" A-3	"		+	+	+	+	
" A-4	"		+	+	+	+	
" A-5	"		+	+	+	+	
" A-6	"		+	+	+	+	
" B-1	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>		+				
" B-3	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>		vd		d		
" B-4	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>		+		+		
" B-5	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>		d				
7576	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>		+		+		

key to Table 3. Parts A and B.

A. Table 3.

Cultivar 7309 From ^{earliest} main stalk of plant 7109B-2. ($a_2 w$ (class II) BI/ $a_2 b$;
 $wx + / w + f \times a_2 b$ wx no spots)

Plants in A form colonies, BI, wx leaves with spots of color

B, Table 3
Year 1957

Cultivar 7308 From self-pollinated ear of tiller-1 of plant 7109B-2

Plants in A derived from uniformly pigmented, BI, wx leaves

" " B " " colonies BI, wx leaves with many spots of pinkish

" " C " " colonies BI wx leaves with few spots of pinkish

" " D " " BI wx leaves. ($a_2 w$ (class I) BI/ $a_2 b$, $wx + / w$ spots)

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Cultivar 7570. Kernels selected from ear of plant 7308 A-4. (tiller cloned)

~~Plant~~ with plant 7108 D-2 ($a_2 b$ / $a_2 b$, $wx + / w$ spots)

Plants in A derived from colonies, BI, wx leaves showing "ispir" pattern
of pigmented spots

" in B " " colonies BI, wx leaves showing "2spir" pattern
of pigmented red spots

" " C " " colonies BI wx leaves showing only spots (A2 pigment)

Specimen 7563 From seed of plant 7308-4 produced 4 ears with
a plant having 3 ears for A₂, B₁, + W and having no Spur
Plants in A + B derived from Coblets, P.E., W + Kernels ~~other~~^{heavy}
small spots of A₂ pigment.

Cultivar 7546. From tiller ear of plant 7308-4 produced from cross between a plant derived from α_2 , bt, and W+ and Koenig No Spec. Plants derived from Colerian, BI W+ having silvery small spots of α_2 pigment.

Cultivar 7554: From ear of one plant homozygous for A_2 , b , and w and having no spine when pollen from plant 7308A-5 was used in making the cross.

Plants in A derived from B I W₁ and ex libet by the
"diffus-mottled" phenotype.

Cultivar 7573 : From ^{selected} first ear, main stalk of plant 9308C-6
 Which was A_2^{III} (class II) BT/ A_2^{III} (class II) in Spur / in Spur + 1
 Spur in constitutive, when crossed by a plant homozygous for
 A_2 , bt, and W^+ and having no Spur
 Plants in F derived from this were, BT, W^+ while having few spurs of A_2 fish
 " " B " " " " " " " " " " many small spurs " "

Cultivar 7576 From 2nd ear, main stalk of plant 7308 C-6 when
crossed by plant from 33500 for a₂, b₂ and Wx and having
no Spur.

Reunited

7576 - firm, completely colored, R I Wx always larger but
showing perianth spots in all forms.

Table 3 C

Phase of activity in successive generations of the Spm derived from plant 7308D-1 (see table 3 B) which was a₂ bt/a₂ bt, wx +/wx Spm (active) in constitution.

Plant number	<u>Spm</u> location	Activity of <u>Spm</u>					
		First ear		Second ear		Ear of tiller	
		main stalk	main stalk	tiller	tiller	tiller	3
Year 1958							
7564-1	<u>wx</u> +/ <u>wx</u> <u>Spm</u>		+			+	+
" -2	<u>wx</u> +/ <u>wx</u> <u>Spm</u>		+			+	
" -3	<u>wx</u> +/ <u>wx</u> <u>Spm</u>		+				
" -4	<u>wx</u> +/ <u>wx</u> <u>Spm</u>		+			+	
" -5	<u>wx</u> +/ <u>wx</u> <u>Spm</u>		+				
7565A-1	<u>wx/wx</u>		-				
" A-2	<u>wx</u> +/ <u>wx</u> <u>Spm</u>		d				
# A-3	<u>wx</u> +/ <u>wx</u> <u>Spm</u>		(+ -)		+	+	
" A-4	<u>wx</u> +/ <u>wx</u> <u>Spm</u>		vd				
" A-5	<u>wx</u> +/ <u>wx</u> <u>Spm</u>		+				
" B-1	<u>wx</u> +/ <u>wx</u> <u>Spm</u>		vd			vd	
" B-2	<u>wx/wx</u> <u>Spm</u>		vd				
7566A-1	<u>wx</u> +/ <u>wx</u> <u>Spm</u>		(+ -)			+	
" A-2	<u>wx</u> +/ <u>wx</u> <u>Spm</u>		+				
" A-3	<u>wx</u> +/ <u>wx</u> <u>Spm</u>		d				
" A-4	<u>wx</u> +/ <u>wx</u> <u>Spm</u>		+			+	
" A-5	<u>wx</u> +/ <u>wx</u> <u>Spm</u>		+			+	+
T " B	<u>wx</u> +/ <u>wx</u> <u>Spm</u> plus 2 <u>Spm</u>		+ + +				
T 7567	<u>wx</u> +/ <u>wx</u> <u>Spm</u> plus 2 <u>Spm</u>		+ + +				+ + +
7568	<u>wx/wx</u> ; no <u>Spm</u>		0				0
7601B-1	<u>wx</u> +/ <u>wx</u> <u>Spm</u>		+				
" B-2	<u>wx</u> +/ <u>wx</u> <u>Spm</u>		d				
" B-3	<u>wx</u> +/ <u>wx</u> <u>Spm</u>		(+ -)				
" B-4	<u>wx</u> +/ <u>wx</u> <u>Spm</u>		+				
" B-6	<u>wx/wx</u>		vd				
" B-7	<u>wx</u> +/ <u>wx</u> <u>Spm</u>		+		+		
" B-8	<u>wx</u> +/ <u>wx</u> <u>Spm</u>		+				
" B-9	<u>wx</u> +/ <u>wx</u> <u>Spm</u>		+				

6705A-1	<u>wx/wx</u> ; 1 <u>Spm</u>	+		
" A-2	" " 1 " <u>Spm</u>	+		
" A-3	" "	vd	vd	
" A-5	" " 1 <u>Spm</u>	+		
" B	" "	-		
" C	" "	vd		
7607-1	" " 1 <u>Spm</u>	+		
" -2	" "	vd		
" -3	" "	vd		
" -4	" "	-		
" -5	" " 1 <u>Spm</u>	+		
" -6	" "	d		

7585A-1	<u>wx</u> +/ <u>wx</u> <u>Spm</u>	vd	+		
" A-2	<u>wx</u> +/ <u>wx</u> <u>Spm</u>	+			
" A-3	<u>wx</u> +/ <u>wx</u> <u>Spm</u>	vd			
" A-4	<u>wx</u> +/ <u>wx</u> <u>Spm</u>	vd		+	
" A-5	<u>wx</u> +/ <u>wx</u> <u>Spm</u>	+			
" A-8	<u>wx</u> +/ <u>wx</u> <u>Spm</u>	d	vd		
" B-1	<u>wx</u> +/ <u>wx</u> <u>Spm</u>				
	plus 1 <u>Spm</u>	d	-	+ + + -	
" B-2	<u>wx</u> +/ <u>wx</u> <u>Spm</u>	+			
" B-3	<u>wx</u> +/ <u>wx</u> <u>Spm</u>	-	-		
" B-4	<u>wx</u> +/ <u>wx</u> <u>Spm</u>	vd			
" B-5	<u>wx</u> +/ <u>wx</u> <u>Spm</u>	+	+		
" B-6	<u>wx</u> +/ <u>wx</u> <u>Spm</u>	vd			
7588A-1	<u>wx/wx</u>	-			
" A-2	<u>wx</u> +/ <u>wx</u> <u>Spm</u>	vd	vd		
" B-1	<u>wx</u> +/ <u>wx</u> <u>Spm</u>	+		+	+
" B-2	<u>wx</u> +/ <u>wx</u> <u>Spm</u>	+	-		
" C-1	<u>wx</u> +/ <u>wx</u> <u>Spm</u>				
	plus 1 <u>Spm</u>	+	-		
" C-2	"	+	-	+	-
" D-1	<u>wx</u> +/ <u>wx</u> <u>Spm</u>	+		+	
" D-2	<u>wx</u> +/ <u>wx</u> <u>Spm</u>	vd			

7597A-1	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>			
	plus 1 <u>Spm</u>	+ -		
" A-2	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	vd		
" A-3	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	d		
" A-4	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>		+ d	- d
	plus 1 <u>Spm</u>			
" A-5	"	+ -	+ -	
" A-6	<u>Wx/wx</u>	vd		
" A-7	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	vd		
" B-1	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	d		
" B-2	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	+		
T " B-3	<u>Wx/wx</u> ; 1 <u>Spm</u>	+		
T " B-4	<u>Wx/wx</u> ; 1 <u>Spm</u>	d		
" B-5	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>	d		
" B-6	<u>Wx/wx</u>	-		

7556	<u>Wx</u> +/ <u>wx</u> <u>Spm</u>			
	plus 1 <u>Spm</u>	+ +		+ +

Year 1960

7778A-1	<u>wx/wx</u>	-	<u>vd</u>	
" A-2	"	-	-	-
" A-3	"	-		
" A-4	"	-		
" A-5	"	-	<u>vd</u>	
" A-6	"	-		
" A-7	"	-	-	-
" A-8	"	-		
" B	"	-	-	-
" C-2	"	vd		
" C-3	"	-		
" C-4	"	-		
" C-5	"	-		
" D	"	d	+ +	

7781A	<u>Wx</u> <u>Spm/wx</u> +	+ + +
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Key to part C of Table 3. Year 1958.

♂ parent in all crosses
was 7167D-1 = a_2bt/a_2bt
 w^+w^+ ~~spur~~ - active

Culture number	Culture number of Complement.	Court. + Action of ear Parent.	Type of Combs affected
7564	7305D-1 Miller-3	$a_2^{(m)}(\text{class I})\text{BT}/a_2bt$ w^+w^+ , no spur	colorless, BI, W+ with numerous A_2 spots and large pale areas Fully active spur
7565	7459A-1	" "	A = Fully active spur
			B = colorless BI W+ with only numerous A_2 spots and small A_2 without spots (delayed action spur)
7566	7456A-1	$a_2^{(m)}(\text{class II})\text{BT}/a_2bt$ w^+w^+ , no spur	A = From colorless, BI, W+ hair with "spur" pattern of A_2 spots
			B = From colorless, BI, W+ hair with "high dose spur" pattern of A_2 spots.
7567	7456A-2	$a_2^{(m)}(\text{class II})\text{BT}/a_2bt$ w^+w^+ , no spur	From colorless, BI, W+ hair with "high dose spur" pattern of A_2 spots.
7568	7456A-3	"	From colorless, BI, W+ hair with "spur" pattern of A_2 spots.

culture	♀ parent	Constitution of ♀	Phenotypes of kernels selected
7588	7316 D-3, isles main stalk	$a_2^{m-1}(\text{class I}) BT/a_2 bt$ W+W+; 1 inactive spm	A. $\overset{B}{\text{col}}/\text{col}$, BI W+ with spots of a_2^{m-1} B and $\overset{D}{\text{col}}$ a_2^{m-1} $\overset{B}{\text{col}}/\text{col}$, BI W+ with large areas + small areas of a_2 present
7601	7320 A-2	$a_2^{m-1}(\text{class I}) BT/a_2 bt$ W+W+ no spm	B = from colorless, BI, W+ kernels with many mutant a_2 areas a_2 spots
7605	7320 B-1	$a_2^{m-1}(\text{class I}) BT/a_2^{m-1}(\text{class I}) B$ W+W+ no spm	A $\overset{B+C}{\text{col}}$ from colorless BI esp kernels with mutant a_2 spots
7607	7320 B-6	$a_2^{m-1}(\text{class I}) BT/a_2^{m-1}(\text{class I}) b$ W+W+ no spm	From colorless, BI, W+ kernels with many a_2 areas a_2 spots
7585	7459 A-3	$a_2^{m-1}(\text{class I}) BT/a_2 bt$ W+W+; 1 inactive spm	A. From colorless BI W+ kernels with many mutant a_2 areas no pale areas. B. From colorless BI W+ kernels with many mutant a_2 areas and also large + small pale areas.
7597	7455 C-2	$a_2^{m-1}(a_2) BT/a_2 bt$ W+W+; 1 inactive spm	A. From colorless, BI, W+ kernels with "islands" pattern of a_2 spots. B. From colorless BI W+ kernels with "island" pattern of a_2 spots.

Cultivar	♀ parent	Constitution	Kernel selected
7556	7303-6	$A_2^{uu} (class I) BT/A_2bt$ W+ w; 2 active spots	colorless BT W+ kernel with many A_2 mutant A_2 spots.

Year 1960

7778 From First ear, main stalk of plant 7556 A-1 which has A_2^{uu} (class II) BT/ A_2bt ; W+/w⁺ spots few ears with plant homozygous for A_2 , bt, and w⁺, and having no spots.

A = from A_2BT w⁺ kernels in "active" sector

B = colorless kernel with spots of A_2 that was within the "active" sector

C and D = from colorless, BT w⁺ kernels showing spots of A_2 in "active spot" sector on ear.

7781 From 7601 B-3, first ear, main stalk $\times A_2bt$ w⁺ no spots
 A_2^{uu} (class I) BT/ A_2bt
W++/w⁺ Spots (from 7308 D-1)

A = 1 colorless BT W+ kernel with many mutant A_2 spots.

c. o. june

Table 3, D

Pressey of plant 7302 D-2

a₂bT/a₂bT, w₄+/w₄Spn

Year 1958

Plant No.	Position of Spn	Cross					Pollen
		I	II	t-1	t-2	t-3	
I 7538	From self-pollination of 7302 D-2 (t-1 x t-2)						
7538-1	Spn Spn	+	+				+
" - 2	Spn + Spn	+	+				+
" - 3	1 Spn		+				+
" - 4	1 Spn		+				+
" - 5	1 Spn		+				+
" - 6	Spn Spn	+	+				+
" - 9	1 Spn		+				+
" - 10	Spn Spn	+	+	+			+
" R-2	Spn Spn	+	+	+			+
" R-4	Spn Spn		+	+			+
" - 12	1 Spn		+				+
" - 13	1 Spn		+				+
" - 14	1 Spn		+				+
II	From cross of no Spn ♀ × 7302 D-2 ♂						
7569	F from cross of 7302 D-1 ♀ × 7302 D-2 ♂						
T	-1 W++/w ₄ Spn + 1 Spn	+	-	+	+		
	-2 "W+ + 1 w ₄ Spn		+	+			
	-3 " " "	(+-)		+			
	-4 " " "	+	+				
T	-5 W+/w ₄ ; 1 Spn	d					
	-6 W++/w ₄ Spn	+		+			
	-7 W+ + 1 w ₄ Spn	nd	(+-)				
7571	From 7465 A-1 filer × 7302 D-2 ♂						
	-1 W++/w ₄ Spn	nd	+	+	+		
	-2 " " "	+					
	-3 W+/w ₄ no Spn	o		o	o		
	-4 W+ + 1 w ₄ Spn	+		(+-)	+		
	-5 " " "	+	+	+			
7575	From 7310-2 × 7302 D-2 ♂						
A	W++/w ₄ Spn	d					
B	" " "	+					
C-1	2						
	3						
	4						
	5						

Table 3 D - continued.

Plant Number	Position of Spm	Geno	t-1	t-2	t-3	Pollen
7602	From 7320 A-4 ♀ × 7308 D-2 ♂					
T	-1 W+ + 1 w ₄ Spm	+				
	-2 " "	+				
	-3 W+ w ₄ ; 2S spm	+				
	-4 W+ w ₄ test for spm	nd				
	-5 W+ + 1 w ₄ Spm	nd	nd	+		
 III From cross of spm-active ♀ × 7308 D ♂						
7570	From 7308 A-4 × 7308 D-2. See under Year 1958, B, Table 3					
7610	From 7322 A-7 × 7308 D-2 when -1					
A-1	W+ + 1 w ₄ Spm + 1 Spm	+	+			
A-2	" " " "	+	+			
A-3	" " " "	d	d	+	+	
A-4	" " " "	d	-	d	+	
A-5	W+ + 1 w ₄ Spm	d	d	nd		
A-6	W+ + 1 w ₄ Spm	d	-	+	+	+
B-1	Wx + 1 w ₄	-				
B-2	Wx + 1 w ₄ Spm		+			
B-3	Wx + 1 w ₄		nd			
B-4	Wx + 1 w ₄ Spm		nd			
B-6	W+ + 1 w ₄ Spm		nd			
C-1		-				
C-2	Wx w ₄ ; 1 Spm	+	d			
 IV 7308 D-2 ♂ to ♀ plants having inactive spm, mated with Wx w ₄						
7583	From 7305 C-4 Filly. 1 ♀ × 7308 D-2 ♂					
A-1	w ₄ w ₄ ; 1 Spm	+				
-2	Wx + 1 w ₄ Spm	+	+	+		
-3	W+ + 1 w ₄ Spm	+	-			
-4	W+ + 1 w ₄ Spm		+	+		
-5	Wx + 1 w ₄ Spm		+			
B-1	W+ + 1 w ₄ Spm					
-2	W+ + 1 w ₄ Spm		+			
-3	W+ + 1 w ₄ Spm		+			
-4	W+ + 1 w ₄ Spm		+			
-5	Wx + 1 w ₄ Spm		+			